**Base of Skull Metastatic Adenocarcinoma from the Breast, the Longest Dormant after 23 years**

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**Information/ Background**

- Breast cancer metastasis to the head and neck region is uncommon with only few cases documented in the literature.
- Particularly, metastatic diseases to the base of skull with infiltration into the nose and paranasal sinuses are exclusively rare.
- The mean duration from primary diagnosis of breast cancer to base of skull metastasis was reported to be 71 months with overall median survival of 31 months. Those with breast carcinoma primary associated with the best survival of 60 months, but involvement of cranial nerves indicates poorer prognosis with an average survival of only 5 months.
- We describe a case of a metastatic adenocarcinoma of the base of skull with concomitant paranasal sinuses involvement after 23 years of breast carcinoma.
- This report also emphasized on the presentation and the postulation of the delayed metastases.

**Materials and Methods**

We reviewed a case note of a 67-year-old lady with history of left breast malignancy who underwent left mastectomy and axillary clearance and completed her radiotherapy in 1992 presented with 3 months history of total loss of vision on her left eye after 23 years.

On nasoendoscopic examination showed lobulated, well encapsulated mass occupying the midline posterolateral part of nasal cavity. Examination of the previously operated side and contralateral basemaged revealed no palpable mass and no axillary lymphadenoaphathy. These findings correlated with her annual mammogram which showed no mammographic evidence of malignancy (BI-RADS 1). The contrasted Computed Tomography scan and Magnetic Resonance Imaging of the base of skull were performed to see the extension of the tumour (Figure 1 & 2).

She underwent examination under anaesthesia and biopsy. The histopathological examination of the mass revealed a metastatic adenocarcinoma of breast primary.

She was then referred to oncology for palliative treatment.

She had completed 10 cycles of radiotherapy (total of 30Gy) and 6 cycles of chemotherapy. She was subsequently started on Letrozole and calcium supplement.

**Discussion & Postulations**

Distant metastatic spread is unusual before the disease spreads locally, and distant metastases are uncommon in the absence of lymph node metastases. Specifically in the case of breast cancer primary, the route of spread from the infiltrating ductal carcinoma of the breast to the sphenoid sinus is suspected to be hematogenous, while symmetrical ethmoid metastasis is suggested to be via transcristobal spread.

Batson in 1940, performed an experiment to assess the venous spread of disease from breast cancer. He injected mercury sulphide into a small vein in a cadaver's left breast. The injectable material was then found in the clavicule, in the intercostal veins, in the head of the humerus, in the cervical vertebrae, in the transverse cranial venous sinus, as well as in the superior longitudinal sinus. Some of the material was also found in the azygous vein and in the superior cava vessel. These replicated observations corresponded to the so-called aberrant metastases from the breast, for example those to the paranasal sinuses, to the skull bones, to the cervical vertebrae and to the shoulder girdle.

**Conclusion**

Metastasis of the base of skull sinuses involvement, as seen in our case, is exclusively rare. Despite the rarity of this disease progression, attending physician and surgeon should have heightened suspicion of possible base of skull metastasis. The discernable feature of our case is the more than 2 decades asymptomatic interval from the primary diagnosis of breast cancer. Therefore, latent metastasis to the base of skull with concomitant paranasal sinuses infiltration should considered although the primary cancer was diagnosed two decades back.

**References**